

# SEQUENCE LISTING

<110> CANFIELD, William  
KORNFELD, Stuart

<120> EXPRESSION OF LYSOSOMAL HYDROLASE IN CELLS EXPRESSING PRO-N-  
ACETYLGLUCOSAMINE-1-PHOSPHODIESTER ALPHA-N-ACETYL GLUCOSIMANIDASE

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<170> PatentIn version 3.1

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Ser Ala Phe Gln Phe Gly Glu Val Val Leu Glu Trp Ser Arg Asp Gln  
35 40 45

Tyr His Val Leu Phe Asp Ser Tyr Arg Asp Asn Ile Ala Gly Lys Ser  
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Phe Gln Asn Arg Leu Cys Leu Pro Met Pro Ile Asp Val Val Tyr Thr  
65 70 75 80

Trp Val Asn Gly Thr Asp Leu Glu Leu Leu Lys Glu Leu Gln Gln Val  
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Arg Glu Gln Met Glu Glu Glu Gln Lys Ala Met Arg Glu Ile Leu Gly  
100 105 110

Lys Asn Thr Thr Glu Pro Thr Lys Lys Ser Glu Lys Gln Leu Glu Cys  
115 120 125

Leu Leu Thr His Cys Ile Lys Val Pro Met Leu Val Leu Asp Pro Ala  
130 135 140

Leu Pro Ala Asn Ile Thr Leu Lys Asp Val Pro Ser Leu Tyr Pro Ser  
145 150 155 160

Phe His Ser Ala Ser Asp Ile Phe Asn Val Ala Lys Pro Lys Asn Pro  
165 170 175

Ser Thr Asn Val Ser Val Val Val Phe Asp Ser Thr Lys Asp Val Glu  
180 185 190

Asp Ala His Ser Gly Leu Leu Lys Gly Asn Ser Arg Gln Thr Val Trp  
195 200 205

Arg Gly Tyr Leu Thr Thr Asp Lys Glu Val Pro Gly Leu Val Leu Met  
210 215 220

Gln Asp Leu Ala Phe Leu Ser Gly Phe Pro Pro Thr Phe Lys Glu Thr  
225 230 235 240

Asn Gln Leu Lys Thr Lys Leu Pro Glu Asn Leu Ser Ser Lys Val Lys  
245 250 255

Leu Leu Gln Leu Tyr Ser Glu Ala Ser Val Ala Leu Leu Lys Leu Asn  
260 265 270

Asn Pro Lys Asp Phe Gln Glu Leu Asn Lys Gln Thr Lys Lys Asn Met  
275 280 285

Thr Ile Asp Gly Lys Glu Leu Thr Ile Ser Pro Ala Tyr Leu Leu Trp  
290 295 300

Asp Leu Ser Ala Ile Ser Gln Ser Lys Gln Asp Glu Asp Ile Ser Ala  
305 310 315 320

Ser Arg Phe Glu Asp Asn Glu Glu Leu Arg Tyr Ser Leu Arg Ser Ile  
325 330 335

Glu Arg His Ala Pro Trp Val Arg Asn Ile Phe Ile Val Thr Asn Gly  
340 345 350



Glu Gly Ala Tyr Ser Asp Asn Pro Ile Ile Arg His Ala Ser Ile Ala  
580 585 590

Asn Lys Trp Lys Thr Ile His Leu Ile Met His Ser Gly Met Asn Ala  
595 600 605

Thr Thr Ile His Phe Asn Leu Thr Phe Gln Asn Thr Asn Asp Glu Glu  
610 615 620

Phe Lys Met Gln Ile Thr Val Glu Val Asp Thr Arg Glu Gly Pro Lys  
625 630 635 640

Leu Asn Ser Thr Ala Gln Lys Gly Tyr Glu Asn Leu Val Ser Pro Ile  
645 650 655

Thr Leu Leu Pro Glu Ala Glu Ile Leu Phe Glu Asp Ile Pro Lys Glu  
660 665 670

Lys Arg Phe Pro Lys Phe Lys Arg His Asp Val Asn Ser Thr Arg Arg  
675 680 685

Ala Gln Glu Glu Val Lys Ile Pro Leu Val Asn Ile Ser Leu Leu Pro  
690 695 700

Lys Asp Ala Gln Leu Ser Leu Asn Thr Leu Asp Leu Gln Leu Glu His  
705 710 715 720

Gly Asp Ile Thr Leu Lys Gly Tyr Asn Leu Ser Lys Ser Ala Leu Leu  
725 730 735

Arg Ser Phe Leu Met Asn Ser Gln His Ala Lys Ile Lys Asn Gln Ala  
740 745 750

Ile Ile Thr Asp Glu Thr Asn Asp Ser Leu Val Ala Pro Gln Glu Lys  
755 760 765

Gln Val His Lys Ser Ile Leu Pro Asn Ser Leu Gly Val Ser Glu Arg  
770 775 780

Leu Gln Arg Leu Thr Phe Pro Ala Val Ser Val Lys Val Asn Gly His  
785 790 795 800

Asp Gln Gly Gln Asn Pro Pro Leu Asp Leu Glu Thr Thr Ala Arg Phe

805

810

815

Arg Val Glu Thr His Thr Gln Lys Thr Ile Gly Gly Asn Val Thr Lys  
820 825 830

Glu Lys Pro Pro Ser Leu Ile Val Pro Leu Glu Ser Gln Met Thr Lys  
835 840 845

Glu Lys Lys Ile Thr Gly Lys Glu Lys Glu Asn Ser Arg Met Glu Glu  
850 855 860

Asn Ala Glu Asn His Ile Gly Val Thr Glu Val Leu Leu Gly Arg Lys  
865 870 875 880

Leu Gln His Tyr Thr Asp Ser Tyr Leu Gly Phe Leu Pro Trp Glu Lys  
885 890 895

Lys Lys Tyr Phe Gln Asp Leu Leu Asp Glu Glu Glu Ser Leu Lys Thr  
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Gln Leu Ala Tyr Phe Thr Asp Ser Lys Asn Thr Gly Arg Gln Leu Lys  
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Lys Phe Gly Phe Thr Ser Arg Lys Val Pro Ala His Met Pro His Met  
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Ile Asp Arg Ile Val Met Gln Glu Leu Gln Asp Met Phe Pro Glu Glu  
35 40 45

Phe Asp Lys Thr Ser Phe His Lys Val Arg His Ser Glu Asp Met Gln  
50 55 60

Phe Ala Phe Ser Tyr Phe Tyr Tyr Leu Met Ser Ala Val Gln Pro Leu  
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Ile Ala Leu Lys Arg Lys Ile Phe Pro Arg Arg Arg Ile His Lys Glu  
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Ala Ser Pro Asn Arg Ile Arg Val  
 325

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Leu Gln Ala Lys Arg Asp Pro Ser Pro Val Ser Gly Pro Val His Leu  
 50 55 60

Phe Arg Leu Ser Gly Lys Cys Phe Ser Leu Val Glu Ser Thr Tyr Lys  
 65 70 75 80

Tyr Glu Phe Cys Pro Phe His Asn Val Thr Gln His Glu Gln Thr Phe  
 85 90 95

Arg Trp Asn Ala Tyr Ser Gly Ile Leu Gly Ile Trp His Glu Trp Glu  
 100 105 110

Ile Ala Asn Asn Thr Phe Thr Gly Met Trp Met Arg Asp Gly Asp Ala  
 115 120 125

Cys Arg Ser Arg Ser Arg Gln Ser Lys Val Glu Leu Ala Cys Gly Lys  
 130 135 140

Ser Asn Arg Leu Ala His Val Ser Glu Pro Ser Thr Cys Val Tyr Ala  
 145 150 155 160

Leu Thr Phe Glu Thr Pro Leu Val Cys His Pro His Ala Leu Leu Val  
 165 170 175

Tyr Pro Thr Leu Pro Glu Ala Leu Gln Arg Gln Trp Asp Gln Val Glu  
 180 185 190

Gln Asp Leu Ala Asp Glu Leu Ile Thr Pro Gln Gly His Glu Lys Leu  
 195 200 205

Leu Arg Thr Leu Phe Glu Asp Ala Gly Tyr Leu Lys Thr Pro Glu Glu  
210 215 220

Asn Glu Pro Thr Gln Leu Glu Gly Gly Pro Asp Ser Leu Gly Phe Glu  
225 230 235 240

Thr Leu Glu Asn Cys Arg Lys Ala His Lys Glu Leu Ser Lys Glu Ile  
245 250 255

Lys Arg Leu Lys Gly Leu Leu Thr Gln His Gly Ile Pro Tyr Thr Arg  
260 265 270

Pro Thr Glu Thr Ser Asn Leu Glu His Leu Gly His Glu Thr Pro Arg  
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Ala Lys Ser Pro Glu Gln Leu Arg Gly Asp Pro Gly Leu Arg Gly Ser  
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Leu  
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Trp Asp Leu Ser Ala Ile Ser Gln Ser Lys Gln Asp Glu Asp Ala Ser 305 310 315 320		
Ala Ser Arg Phe Glu Asp Asn Glu Glu Leu Arg Tyr Ser Leu Arg Ser 325 330 335		
Ile Glu Arg His Ala Pro Trp Val Arg Asn Ile Phe Ile Val Thr Asn 340 345 350		
Gly Gln Ile Pro Ser Trp Leu Asn Leu Asp Asn Pro Arg Val Thr Ile 355 360 365		
Val Thr His Gln Asp Ile Phe Gln Asn Leu Ser His Leu Pro Thr Phe 370 375 380		
Ser Ser Pro Ala Ile Glu Ser His Ile His Arg Ile Glu Gly Leu Ser 385 390 395 400		
Gln Lys Phe Ile Tyr Leu Asn Asp Asp Val Met Phe Gly Lys Asp Val 405 410 415		
Trp Pro Asp Asp Phe Tyr Ser His Ser Lys Gly Gln Lys Val Tyr Leu 420 425 430		
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Lys Asp Gly Tyr Cys Asp Lys Ala Cys Asn Thr Ser Pro Cys Asp Trp 450 455 460		
Asp Gly Gly Asn Cys Ser Gly Asn Thr Ala Gly Asn Arg Phe Val Ala 465 470 475 480		
Arg Gly Gly Gly Thr Gly Asn Ile Gly Ala Gly Gln His Trp Gln Phe 485 490 495		

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Ser Trp Leu Ala Asp Lys Phe Cys Asp Gln Ala Cys Asn Val Leu Ser  
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Cys Gly Phe Asp Ala Gly Asp Cys Gly Gln Asp His Phe His Glu Leu  
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Tyr Lys Val Thr Leu Leu Pro Asn Gln Thr His Tyr Val Val Pro Lys  
545 550 555 560

Gly Glu Tyr Leu Ser Tyr Phe Ser Phe Ala Asn Ile Ala Arg Lys Arg  
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Ile Glu Gly Thr Tyr Ser Asp Asn Pro Ile Ile Arg His Ala Ser Ile  
580 585 590

Ala Asn Lys Trp Lys Thr Leu His Leu Ile Met Pro Gly Gly Met Asn  
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Ala Thr Thr Ile Tyr Phe Asn Leu Thr Leu Gln Asn Ala Asn Asp Glu  
610 615 620

Glu Phe Lys Ile Gln Ile Ala Val Glu Val Asp Thr Arg Glu Ala Pro  
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Lys Leu Asn Ser Thr Thr Gln Lys Ala Tyr Glu Ser Leu Val Ser Pro  
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Val Thr Pro Leu Pro Gln Ala Asp Val Pro Phe Glu Asp Val Pro Lys  
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Glu Lys Arg Phe Pro Lys Ile Arg Arg His Asp Val Asn Ala Thr Gly  
675 680 685

Arg Phe Gln Glu Glu Val Lys Ile Pro Arg Val Asn Ile Ser Leu Leu  
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Pro Lys Glu Ala Gln Val Arg Leu Ser Asn Leu Asp Leu Gln Leu Glu  
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Arg Gly Asp Ile Thr Leu Lys Gly Tyr Asn Leu Ser Lys Ser Ala Leu  
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Leu Arg Ser Phe Leu Gly Asn Ser Leu Asp Thr Lys Ile Lys Pro Gln  
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Ala Arg Thr Asp Glu Thr Lys Gly Asn Leu Glu Val Pro Gln Glu Asn  
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Pro Ser His Arg Arg Pro His Gly Phe Ala Gly Glu His Arg Ser Glu  
770 775 780

Arg Trp Thr Ala Pro Ala Glu Thr Val Thr Val Lys Gly Arg Asp His  
785 790 795 800

Ala Leu Asn Pro Pro Pro Val Leu Glu Thr Asn Ala Arg Leu Ala Gln  
805 810 815

Pro Thr Leu Gly Val Thr Val Ser Lys Glu Asn Leu Ser Pro Leu Ile  
820 825 830

Val Pro Pro Glu Ser His Leu Pro Lys Glu Glu Glu Ser Asp Arg Ala  
835 840 845

Glu Gly Asn Ala Val Pro Val Lys Glu Leu Val Pro Gly Arg Arg Leu  
850 855 860

Gln Gln Asn Tyr Pro Gly Phe Leu Pro Trp Glu Lys Lys Lys Tyr Phe  
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Gln Asp Leu Leu Asp Glu Glu Glu Ser Leu Lys Thr Gln Leu Ala Tyr  
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Phe Thr Asp Arg Lys His Thr Gly Arg Gln Leu Lys  
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1003394-122104

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**VOL. LXXV.**  
**PART I.**  
**1945.**

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**VOL. LXXV.**  
**PART I.**  
**1905.**

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**VOL. LXXV.**  
**PART I.**  
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**VOL. LXXV.**  
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**VOL. LXXV.**  
**PART I.**  
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